Barrier Gate

User Manual

(ST200 series)

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(Version 3)

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Dear User:

Thanks for your trust.
Please read this user manual carefully before using shining barrier gates.

The manual includes: main functions (our own advantages), dimensions, parameters, main board wiring diagram, installation instructions, testing, and parts list.

The user manual can help you to know more details about shining barrier gate, such as mechanical working theory, using guide, matters need attention. We should use the barrier in right way to ensure the working life.

The user manual also analyzes some problems which maybe appear in the using process. And you can find out the way to solve each problem in the manual.

At the same time, we sincerely hope that you can give us some suggestions how to make our barrier gates to be more and more stable.

Thanks!

Our Advantages

1. Mechanical features

● Integrative machine core: all part is made by mold, so all parts can be more accurate. And so the barrier gate can be much more stable;

●Left or right installed can be amendable. Customer can amend install direction by himself.

●Accurate link mechanism: link mechanism can release boom's shake and motor load, so the barrier gate can move more stable and barrier gate's working life can be more longer;

●70W turbine worm transmission deceleration induction motor: Drive Steady, Noise Lower, Structures Compact, can realize self-locking;

●Lock or open the boom by hand: we can turn motor handle to lock or open the boom when power is of.

2. Electrical features

●High integrated level, Powerful function;

●Shutdown functions (motor will be shut down automatically after 6 seconds) and thermal protection functions can effectively protect our motor;

●Using hall sensors to control boom positions;

●Using imported high power relay to ensure power stability;

●Using imported photoelectric isolated protection circuit to ensure signals' stability;

●Integrating Wireless remote control receiving module to ensure wireless controlling stability;

●Using quench circuit to ensure main board working life;

●Using imported Magnetic core transformer to ensure the machine's working in damping situation;

●Main board can provide power 12V/100mA to various limited switch.

3. Safety features

●Pressure sensor - Anti-crash functions: If the boom meets something during closing process, the boom will be opened automatically;

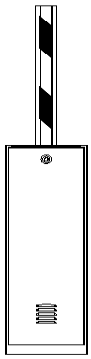
●Loop detector - Anti-crash functions: If car stands under the boom, the barrier gates cannot be close. And the barrier gates will be closed automatically when the car passes the boom;

●Open first functions: no matter the boom locates any position, it will be opened if barrier gate gets open signal;

●Plastic strips: we can install plastic strip into our boom, it can decrease accident damages.

Dimensions and Parameters

1. Dimensions

Model	Photo	Sub-Model	Boom length (M)	Speed (S)	Weight KG	Dimensions (MM)
ST200		ST200-ZM	6	6	38	330*232*972
		ST200-ZH	4.5	4	38	330*232*972
		ST200-ZK	3.5	1.5	38	330*232*972
		ST200-QM	6	6	38	330*232*972
		ST200-QH	4.5	4	38	330*232*972
		ST200-QK	3.5	1.5	38	330*232*972
		ST200-LM	4.5	6	38	330*232*972

Meanings of sub-model;

Boom type: Z -- Straight Boom Q -- folding boom L – fence boom

Speed type: M -- 6s H – 3s K – 1.5s

2. Color available (standard configurations)

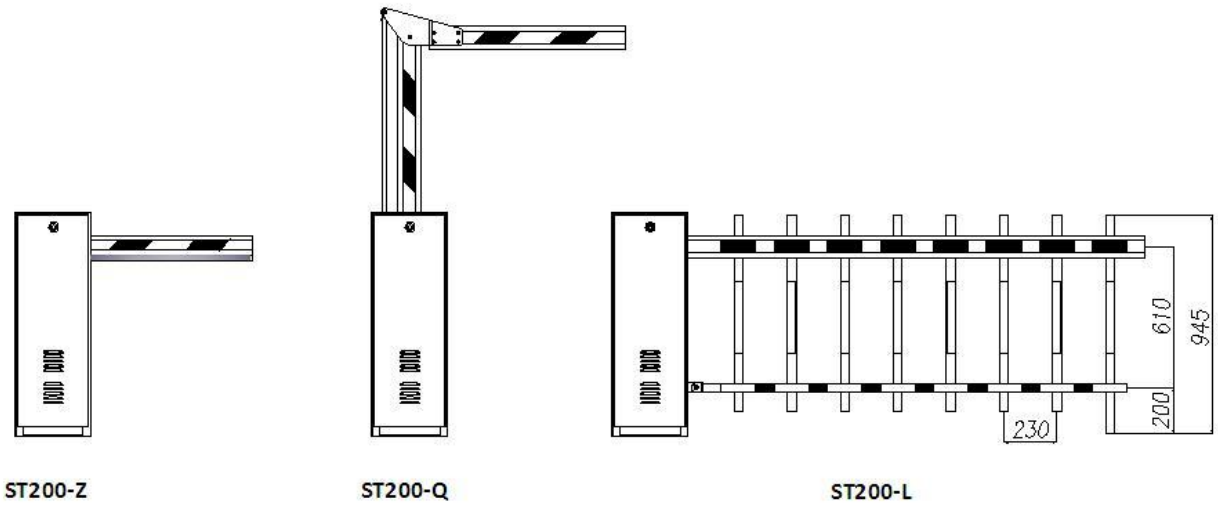
Standard configurations	Housing Color	Door color
Type-A	Blue	silvery
Type-B	Yellow	silvery
Type-C	Red	silvery
Type-D	Black	silvery

Notes: color also can be customized according to customer's requirements.

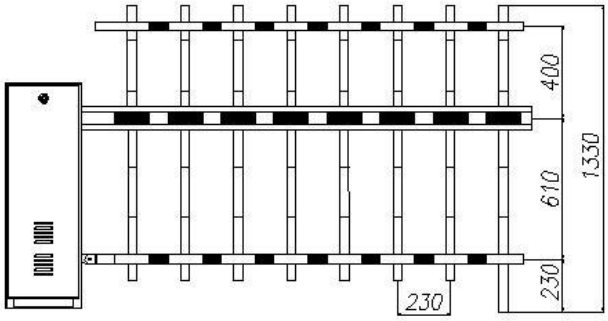
3. Parameters

Power Supply	AC220/AC110 50/60HZ
Rated Power	100W
Temperature	-30<C<80
Weight	38
IP	IP44
The height of boom support	830mm
Remote controller distance	≥30m
Communication interface	RS485
Input interface (optional)	+12V relay signal or≥100MS pulse signal

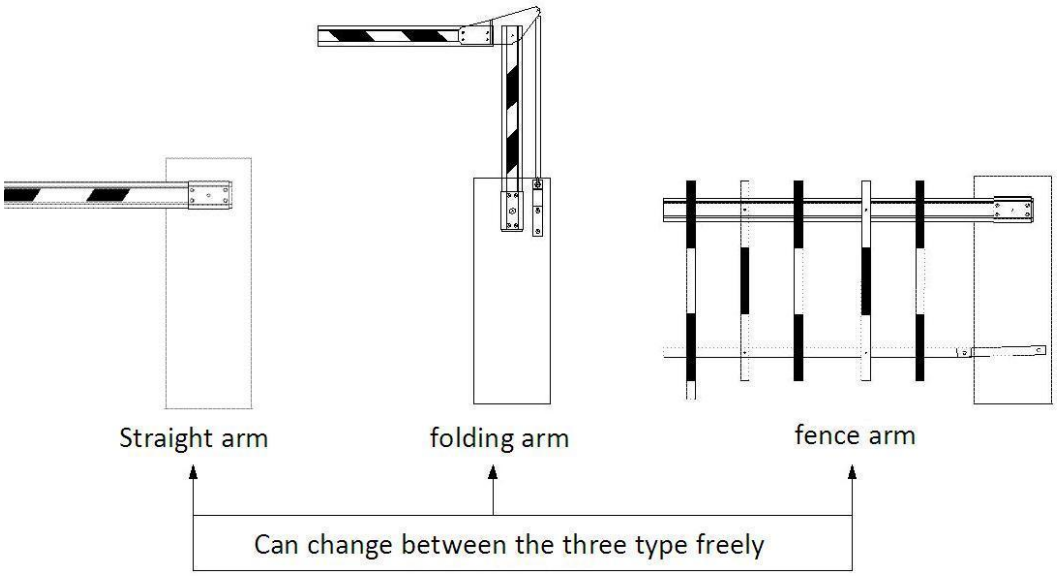
4. Housing structure



ST200-Z ST200-Q ST200-L



ST200-L

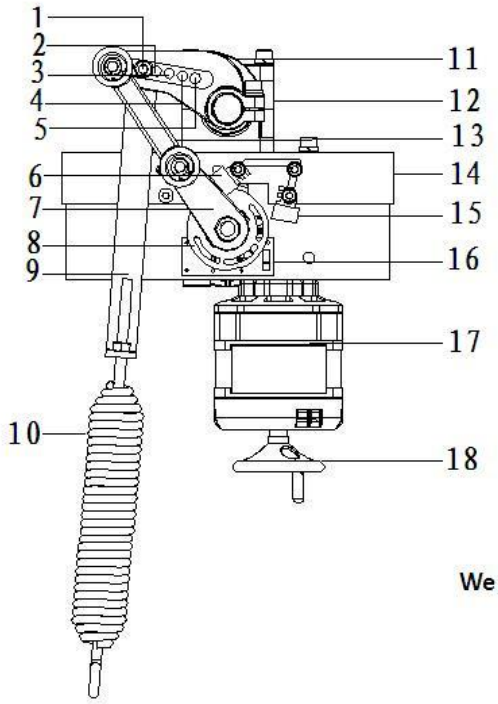


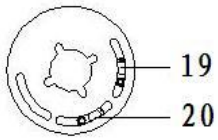
The housing can be used both for straight boom, folding boom and fence.

5. Machine core structure

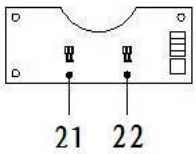
ST200 series barrier gates uses turbine worm drive mechanism and bearing turning mechanism to control the boom movement. And hall sensor can accurately control boom's vertical position and horizontal position.

ST200 series barrier gates can use 3m,4m,5m,6m booms. We just need to change the hole to meet different boom length.





Hall sensor



We can amend arm's position via moving magnet.

1. Hole for 6m boom
2. Hole for 5m boom
3. Hole for 4.5m boom
4. Hole for 4m boom
5. Hole for 3m boom
6. Mechanical limited switch - horizontal
7. Transmission shaft 1
8. Hall sensor
9. Spring shaft
10. Spring
11. Transmission shaft 2
12. Base to support shaft 2
13. Transmission shaft 3
14. Mechanical limited switch - vertical
15. Support base
16. Hall sensor
17. Motor
18. Motor handle
19. Limited magnet (vertical position)
20. Limited magnet (horizontal position)
21. Green light (open)
22. Red light (close)

6. Wiring diagram

6.1. How to connect remote controller with barrier gates?

First, Press ”Learn” button about 3 seconds, green led light will turn on; Second, release ”Learn” button; Third, press any button in remote controller till the barrier have relative actions.

Notice: If main board doesn’t get signal from remote controller within 8seconds, main board will exit learn program.

6.2. How to erase remote controller?

First, Press ”Learn” button about 9 seconds, green led light will turn on; Second, green led light will turn off.

Notice：After a period time using, the control distance maybe be shorter. Just check remote controller power, we need to replace new power(DC12V,23A).And rain, wind, fog etc also can affect controlling distance, it is normal.

Installation Instructions

●Open package and check parts accessories;

●Choose the right place to install the barrier gates, please be sure that the foundation is concrete foundation and the angle between barrier housing and horizontal level is less than1° after installations;

●Connect power wire and signal wire with barrier gate (advice that set power wire and signal in different wiring conduit);

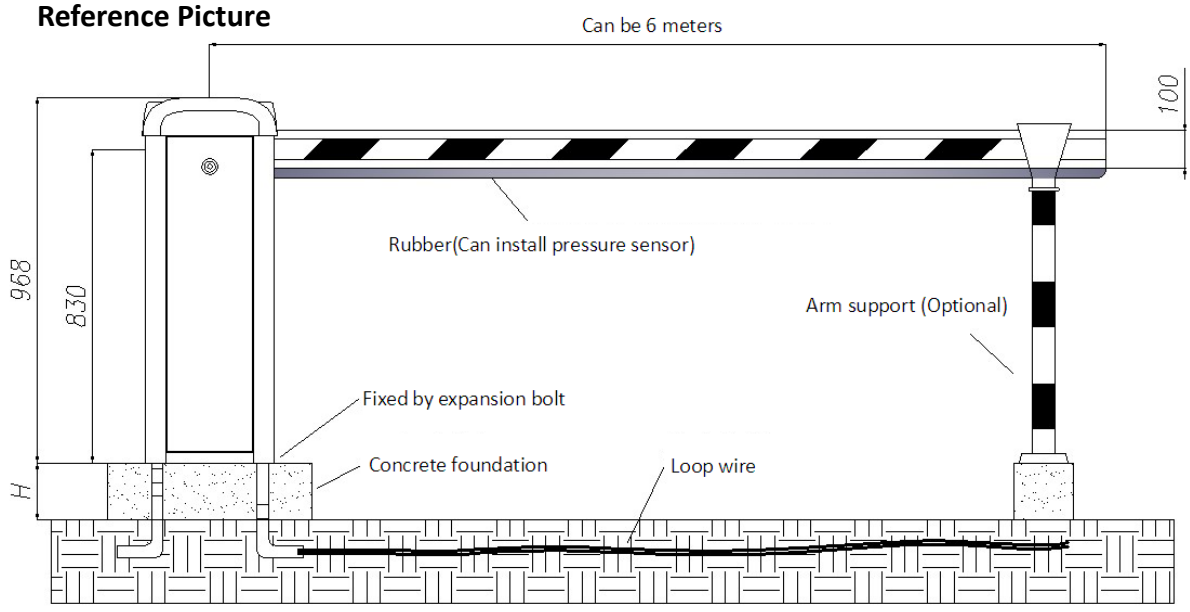
●Using expansion bolt and screw to fix the housing. Be sure that don’t run the barrier before anchoring screw;

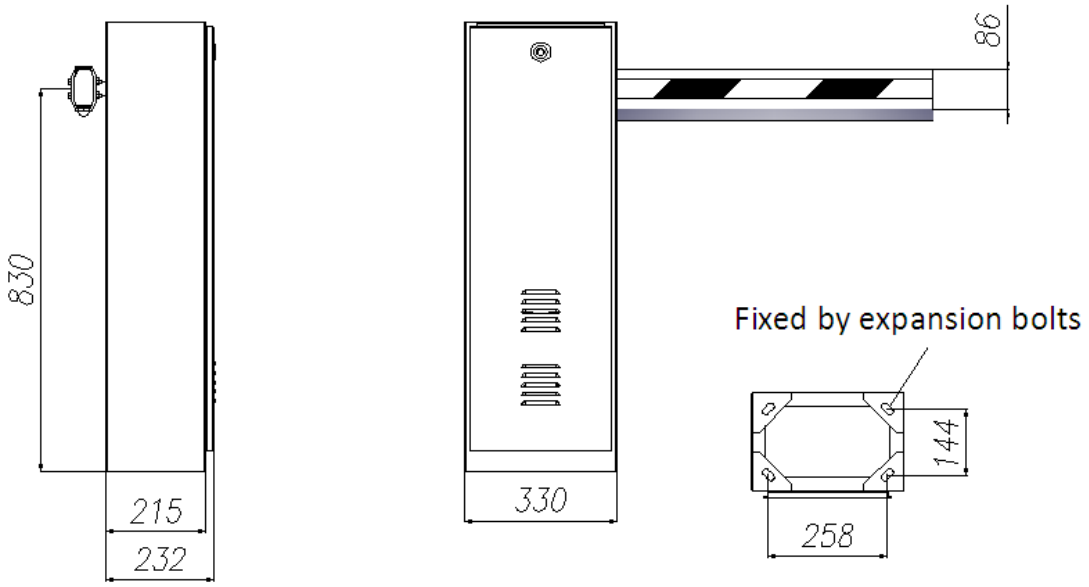
●Using bolts and screws to fix boom with housing;

●Connect power according to wiring diagram, then testing.

Notice: All steps should be in power-off situation.

Reference Picture





ST200 Dimension

Fix base Dimension

Test Instructions

1. Test

All barrier gates have been tested in strict steps before leaving factory, but transportation maybe causes some troubles. So please follow the steps to check the barrier again:

●Check wiring diagram to ensure all wire is well connected, then connect power;

●Check main board signal light is on or off. If the light is off, cut off power at once. Then check all wires again to ensure all wires are well connected, then connect power, check it again;

●Use remote controller or push button to run the barrier, and check boom's positions is on the right way or not, If not, amend the hall sensor till boom in its right position.

● Loop detector test (Auto-close and Anti-crash functions testing). First, open the barrier gate; second, press close button to close the barrier; third, put a metal thing over loop wire circles, then the barrier will stop to close and open. Then take the metal thing away, the barrier will close automatically.

● Pressure sensor test. First, open barrier gate; second, press close button to close the barrier; third, press the rubber on the boom, the barrier will stop close and open the barrier automatically.

2. The do's and don'ts during testing

● Don't use it before testing;

● Do cut off the power if the barrier gate is surrounded by water;

●Don't use it if the barrier has some faults, such as abnormal sound, boom broken, spring broken. And contact factory at once to replace broken parts;
●Don't let any person or any car passes the barrier when the barrier is closing;
●Don't let any person sit on or lean on barrier boom;
●Do close the barrier if there is a typhoon or thunder and lightning.

Trouble and Trouble removal

1. The boom shakes when it is on close or open positions
●Screw loose
Solving way: Open the housing, checking all screws. And fix loosing screws.
●Spring is too tight or too loose
Solving way: Boom shakes on open position, spring is too tight; boom shakes on close position, spring is too loose. Just need to adjust the spring. If the spring is out of normal shape or broken, please do replace new one;
●The screw which connects transmission shafts is loosing
Solving way: checking the screws and fix it.
● Boom length doesn't match spring holes
Solving way: change spring holes according to boom length.

2. Boom cannot close/open to right position, or barrier cannot be opened or closed
● Barrier is in thermal protection situation
Solving way: if the barrier runs frequently and weather is too hot. Barrier motor is too hot and maybe is in thermal protection situation. At this time, barrier cannot be open and close, we just need to wait. When the temperature is ok, the barrier can be used normally.
● Main board is broken
Solving way: change a new board.

3. Barrier opens and closes automatically
● Wires to connect hall sensor are loose or fall off
Solving way: check wires and fix them back.
● Short circuit
Solving way: check wires and connect them in right way.
● Main board is broken
Solving way: change a new board.
● Hall sensor's magnet is not the right position
Solving way: amend the position.

4. Boom cannot stand at right position

●Hall sensor's magnet is loose or wire connection is wrong

Solving way: amend magnet's position, or reconnect the wires.

●Transmission shafts are loose or spring is too tight/loose

Solving way: fix the shafts or amend the spring.

5. Abnormal sounds

●Syntony between machine core and housing

Solving way: set a rubber between machine core and housing.

●Transmission shafts is loose

Solving way: fix them.

6. Remote controller cannot control the barrier

●Battery is low power

Solving way: change a new battery.

●Remote controller receiver's wire is loose

Solving way: check all wires, and fix them back if it is needed.

Using and maintenance

1. Using instruction

● Do check power's voltage matches barrier or not. Our standard is 220V±10%, or 110V±10%;

● Press open button, the boom will open to right position and stop.

●Press close button, the boom will open to right position and stop.

● Power off, just turn the handle of motor to open the boom. Power on, press close button, then the barrier can be used.

2. Maintenance

●Clean the housing surface regularly;

●Check wiring diagram regularly, if some wires loose, fix them back;

●keep the barrier in aeration-drying atmosphere to ensure the stability and working life;

● Check transmission shafts regularly, if loose, fix them back;

●Check spring regularly; ensure spring is in good situations.

●Check the connection between housing and grand regularly, ensure housing is well fixed.

Notices

1. Don’t modify the barrier gates at will!!!
2. Please keep the barrier close when there is a gale!!!

Guarantee card

Customer		Tel	
Address			
Purchasing time		Model	
1. Please write your information carefully, only stamped guarantee card is valid; 2. Guarantee is 1 year; 3. Guarantee does not cover any problems caused by actions not following our user manual.			

Electrical Wiring Diagram: